

SUBTERRANEA BRITANNICA

Bulletin No. 5

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CONTENTS

Page 2	Editorial. Report of the Federation Meeting - E.Blatchford
3	Report on September Day Conference.
4-7	Jacqueline Close Chalk Mine, Suffolk - H. Pearman.
8-10	Ice Houses of Great Britain - Sylvia P. Beamon.
11	Ormerod Estate Ice House - Eileen Aldworth.
12-13	Witley Park Tunnels, Nr.Godalming, Surrey - H. Pearman
14-15	Journey of Study held by the S.F.E.S. at Chinon, France in July 1976 - Eileen Aldworth.
16	Review - J.A. Alexander.

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Subterranea Britannica is in association with Société Française D'Étude
des Souterrains of France, and Arbeitskreis für Erdstallforschung of
Germany.

EDITORIAL

We hope you will find this edition of our bulletin of special interest. You will notice the report on the Conference held at the Institute of Archaeology in London to discuss the setting up of a 'Federation of Societies interested in investigating underground man-made structures.' We are very pleased the Conference was successful in arousing interest throughout the country and if, as seems likely, a federation is formed next year it should help to forge stronger links with other like-minded societies, which can only be to our mutual advantage.

Apart from a varied selection of reports and comments, this bulletin devotes a section of its space to ice-houses and there will be further articles on specific ice-houses in our next bulletin. The contributors of these articles hope they will engender interest in these structures and if any members have knowledge of ice-houses they feel it would be worth investigating, please write to the Secretary.

Arrangements are in hand for a visit to Chiselhurst caves in Kent early in May. If any members would like to join us, please let the Secretary know.

Elaine Blatchford
Editor.

REPORT ON A MEETING HELD ON OCTOBER 23RD AT THE INSTITUTE OF ARCHAEOLOGY IN LONDON TO DISCUSS THE SETTING UP OF A FEDERATION OF SOCIETIES INTERESTED IN INVESTIGATING UNDERGROUND MAN-MADE STRUCTURES

Dr. John Alexander, Chairman of Subterranea Britannica, chaired a meeting to discuss the setting up of a Federation of societies interested in investigating underground man-made structures. Delegates were sent from the following societies: Chelsea Speleological Society, Croydon Scientific and Natural History Society Ltd., Hendon & District Archaeological Society, International Geomantic Research Society, Lewes Archaeological Group, London Subterranean Survey Association, Nottingham Historical Arts Society, Petersfield Prehistoric Mines Group and the William Pengelly Trust. In addition many interested individuals attended as observers.

Dr. Alexander opened the meeting by welcoming delegates and observers in the name of our President, Professor Glyn Daniel, and by listing the reasons why we felt a Federation would be worthwhile. These were:

1. To exchange ideas and so forge links among existing societies.
2. To encourage the growing interest in investigating underground man-made structures and improve methods of research and record.
3. To provide a central body which could liase with sister societies already existing in other countries.

Delegates were then called upon to give their views and lively discussion ensued on whether a Federation would be worthwhile. At the outset it was stressed that the Federation would not interfere with the autonomy of its member societies. Some doubt was expressed as to how such a Federation would define its areas of work, particularly in relation to natural cave exploration and the study of ancient mining. However there was a strong desire to proceed with a move towards Federation and all delegates were of the opinion that the Federation would serve a useful purpose.

Dr. Alexander proposed three motions from the Chair; 'That a Federation of Societies interested in investigating underground man-made structures should be set up'; 'That the draft constitution on the table should be considered by the Societies sending delegates and a version of it

accepted at the first annual meeting; and 'That a steering committee should be set up and a meeting held within 6 months. The steering committee should be composed of the delegates attending the meeting.' All were accepted 'nem con'.

The afternoon session was opened by an informative talk on Safety Underground by Mr. E.C. Catherine of 'Cave Rescue'. This was followed by some excellent advice on Insuring for Underground Work by Mr. Durham of Messrs. Durham and Co., Insurance Brokers. The session was concluded by short talks from the following regions:

Nottinghamshire - Mr.A.MacCormick of Nottingham Historical Arts Society
Hertfordshire - Mrs.S.Beamon of Subterranea Britannica
London - Mr.Morgan of London Subterranean Survey Association
Kent - Mr.H.Pearman of Chelsea Speleological Society.

These talks proved of great interest to the meeting and gave some insight into the work being undertaken in various parts of England.

The meeting then closed and was followed by a short meeting of the steering committee. Mrs. Sylvia Beamon reports that the next meeting has been arranged for March 19th in Nottingham.

Elaine Blatchford

REPORT OF SUBTERRANEA BRITANNICA DAY CONFERENCE HELD ON SATURDAY, 25TH
SEPTEMBER 1976.

The Chairman opened the meeting which was held at Lucy Cavendish College, Cambridge at 10.30 a.m. After formal business was completed, the Chairman mentioned the forthcoming meeting in October at the Institute of Archaeology in London to discuss the setting up of a Federation of Societies interested in investigating underground man-made structures. Dr. Alexander advised the meeting that nine societies had so far agreed to attend as delegates and more than 20 people had asked to attend as observers.

The Chairman of the Royston Pilot Scheme, Mr.D.Wallington, then told the meeting that the emphasis of the Pilot Scheme would be changing. It would now concern itself with collating information and continuing its attempts to trace the Civil Defence Records on underground Royston made in the last war. Mr. Wallington stated that sites of special interest would continue to be investigated but a complete survey was no longer considered necessary. It was agreed that the funds of the Royston Pilot Scheme would be transferred to the Subterranea Britannica general account, but would be used specifically for the Project section.

The Treasurer's report was read by Mr.D.Wallington. It was agreed that Miss L.Clark would take on the duties of Treasurer for the Society. In view of the poor state of the Society's finances suggestions were requested as to where the Society might apply for grants. Several suggestions were made by members of the meeting and a note of these was made for future action.

Mr.H.Pearman from the Chelsea Speleological Society and William Penfelly Cave Studies Trust then gave a most interesting talk on the Bury St. Edmunds Chalk Mines (See Pages 4-7)

Mr.David Wilson of the Dept.of Aerial Photography at Cambridge University completed the morning's proceedings with a short talk on The Use of Aerial Photography in Locating Underground Structures.

Before hastening back to London, Mr.Pearman agreed to speak to us again as he had further material available on a man-made underground passage situated underneath a lake in a large landscaped garden near Witley in Surrey (See P. 12/13)

Mr.D. Tweddell then gave an informative talk on Some of the Methods used to Preserve 'finds' from Underground Excavations.

Mrs. Beamon spoke to us on some of the results of her research into Ice Houses (See 8-10) and this was followed by Mrs. Aldsworth's illustrated descriptions of her visits to three ice houses (See P.11)

Under the section Brief Communications, Mr.Charles Terrot spoke on Secret Passages and the meeting closed with Mrs.Kay de Brisay's interesting slides and commentary on the salt mines at Halstaadt.

Jacqueline Close Chalk Mine, SUFFOLK

During the last century an open chalk quarry, in what is now the south-western suburb of Bury St. Edmunds, was extended by means of a series of underground workings. The first edition of the 25" O.S. map shows an air shaft and the town archives call the plot Bullen's Lime Kiln.

There are no known plans or other records of the workings. One elderly resident could still recall sending beer in a basket down a shaft to the workers below.

In May 1955 a plumber, Percy Cook, undertook the task of unblocking a lavatory at 4 Willow Cottages nearby. He lifted a manhole cover and sent his assistant to pull the chain. As the man did so, the floor opened beneath his feet and he found himself at the bottom of a 50 ft. cavity. He was recovered and the cavity filled.

By 1959 the land was in the possession of the West Suffolk Hospital Management Board. The Board decided that the plot of land to the north of its site was surplus to requirements and offered to sell it to the local Council. Both the Housing and Parks Committee considered a purchase but eventually decided against it on the advice of the Borough Surveyor, who quoted rumours of 'unstable elements', and a liability to subsidence. In 1964 a local builder gained possession of the land in an auction. He is thought to have paid less than two thousand pounds for it. He applied to the Council for planning permission to erect dwellings and this was granted.

A firm named Tricord Developments then acquired the land and set about constructing terraces of split level town houses to be called Jacqueline Close. A would-be purchaser of one of the houses applied to the Council for a mortgage and had it turned down on the grounds that the site might be undermined. This was the first hint of undermining to Tricord, who then consulted the Council to try to establish whether the stability of the site could be measured to the satisfaction of the Council themselves and intending purchasers. As a result two reports were commissioned. The first was from a Cambridge geologist, Dr.C.L. Forbes. He visited the area and accumulated such information as was available on the geology and mining history. His report stated that he was satisfied there was a chalk mine some 40ft. beneath the site. One of his recommendations was that any soakaways should be constructed at least 30ft. away from any structure.

The other report was by Rock Mechanics Ltd. of Chelsea. They made a number of borings but as these were only 20ft. deep they did not locate any cavities. Their report suggested that if the land was sound to this depth then the effect of any workings could be discounted. In a separate letter they absolved themselves from any responsibility for

workings below 20ft. and any damage resulting from poorly sited drainage.

A further terrace of houses was built. As with the earlier terraces soakaways were constructed by making 20ft. deep borings some 3ft. across, close to the houses and under the roads. These were filled with gravel and the surface water led into them. Effectively this created a series of hosepipes concentrating all of the surface drainage onto specific points in the roofs of the chalk tunnels.

The first collapse occurred under a road drain on 25.7.1967. The 27ft. deep hole was filled in with ready-mixed concrete. On 22.12.67. a second drain gave way and 150 tons of concrete was used to seal the cavity. The Borough Engineer became involved. A scheme was devised to construct a second drainage system to pipe all the water into the town drains. However, a dispute broke out as to who should pay for this work.

At the end of December 1968 Bury St. Edmunds was subjected to nearly 3" of rain. At 1.05 p.m. on 21.12.1968 the patio, front path and a large part of the foundations of No.9 Jacqueline Close disappeared into a shaft some 20ft. in diameter and 30 ft. deep. The Council now declared the site dangerous and asked the occupiers to leave. Some did but others formed a Residents' Association.

The Chelsea Speleological Society became involved when details of this last collapse made the national television news and we offered assistance in surveying the tunnels if an entrance could be made. This offer was gratefully accepted by the residents and a large excavator was brought to bear on one of the road collapses. At a depth of 40 ft. two small holes appeared in the sides of the excavation.

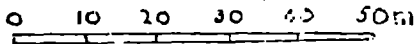
Our party consisted of Neil Young, Paul Covell and myself. We first visited the site on Sunday, 9th February 1969. The early morning temperature was below zero and a light snowfall covered the site. A crowd quickly gathered, closely followed by police, reporters, radio and television. In this circus atmosphere we found ourselves looking down the crumbling sides of the 40ft. shaft and two loose holes at its base. We had to crawl through the loose chalk to make our entry. Almost at once it opened up inside into a series of intersecting tunnels some 15ft. high. Domed roof and piles of debris on the floor told their own story of near collapse.

There seemed a slight danger of getting lost so we made a sketch plan as we went. In some places we were standing well above the original floor level; in others the tunnels were in tact. In these areas the walls and ceiling were coated with a sooty deposit from the original miners' wax candles. One or two metal candle holders were also found hammered into the walls.

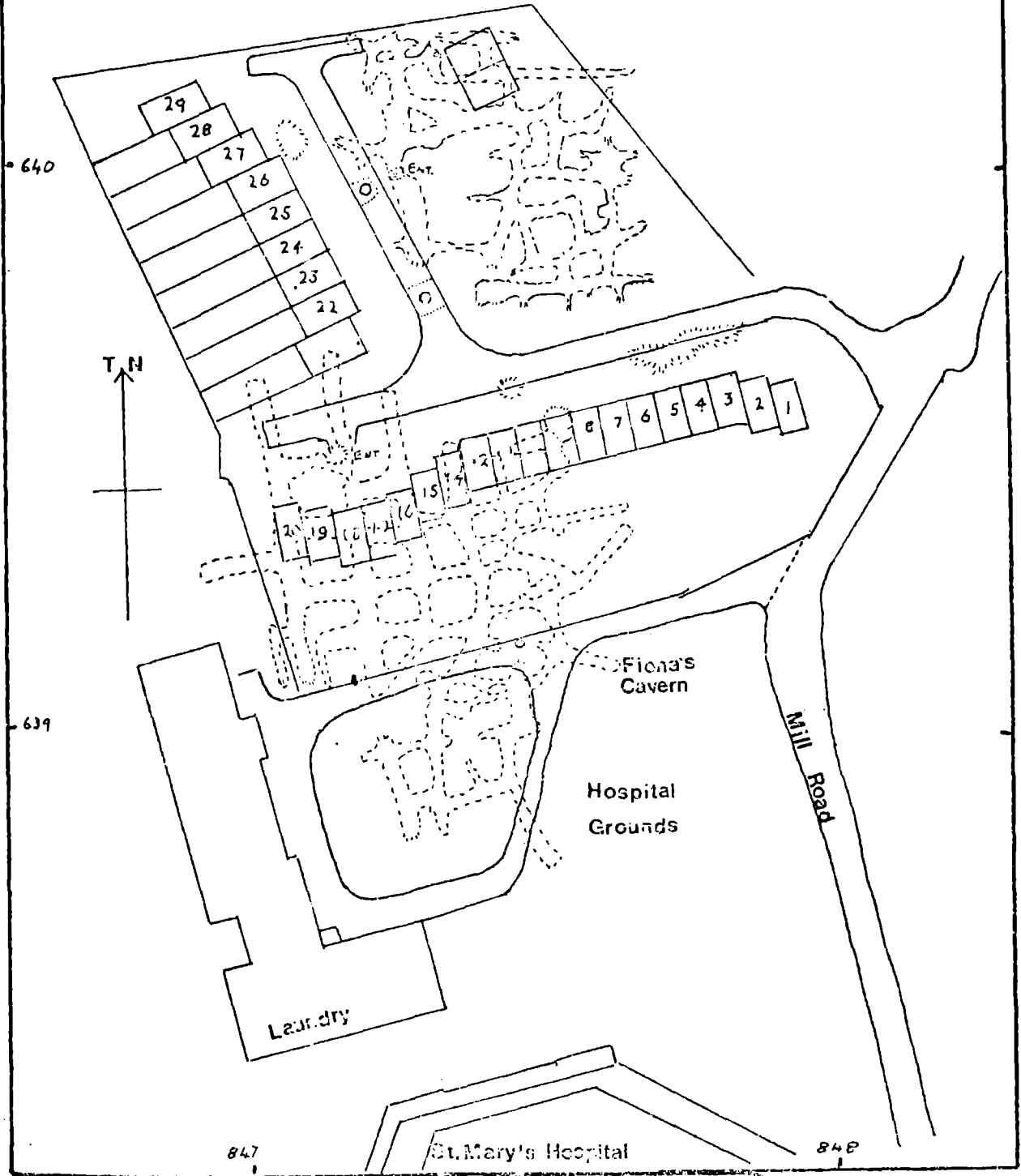
For the most part the chalk was incredibly loose. We learned not to go down when it was raining after several roof falls were heard and one seen. The act of touching the wall lightly with the end of a survey tape would bring huge pieces tumbling down.

On the first visit we found daylight filtering in at one point through the collapse under No.9. It was interesting to stand looking up at a house from below. On another occasion a third tunnel was

JACQUELINE CLOSE



C.R.G. 6



dug out running north from the base of the original 40ft. shaft. As the survey progressed it became apparent that not only was the southern terrace of the Close undermined but also the northern section of the adjoining hospital grounds. On one occasion a pile of debris leading up into the roof was probed and it proved possible to dig a route up a large pile of fallen chalk and into a substantial chamber. This was some 15ft. in diameter and 20ft. high. Top soil and roots could be seen in the roof. The plan showed the roof of the cavern to lie under the road which was regularly used by oil tankers serving the hospital laundry. A metal bar banged into the ground established that only 3ft. of soil covered the cavity. Part of the hospital site had also been designated for a substantial new building. This project was now postponed.

Having exhausted the possibilities on the south of the site we turned our attention to the northern portion. A number of boreholes had been made and by lowering an electric light bulb on the end of a wire it was possible to measure the height and depth of cavities that were encountered. Neil then constructed an ingenious hollow wooden torpedo to take his camera and flash unit. This could be lowered down a borehole attached to the end of a set of drain rods and could be fired remotely by pulling a string.

Once again a mechanical grab was hired and a shaft and the borehole dug out to a depth of 16ft. The last few feet were dug out by a roned caver using a pick and bucket. This dig gave access to a much older portion of the mines on two levels. At one point a promising passage under the road was blocked by a river of solidified concrete; at another were some inscriptions smoked onto the wall: 'George Calton 1858, W. Calton 1861 and the legend 'Bear no malice'. This section of the mine was largely in tact.

Surveying and exploration lasted for several months. Problems of tying in the surface features with the underground plan were resolved when it dawned on us that the architect's site plan had not been strictly adhered to by the builders.

It would be nice to report a tidy outcome to this sequence of events but this was not to be. We donated a copy of the plan to a firm of mining consultants hired by the hospital and armed with this they arranged for the hospital portion of the tunnels to be filled in with fly ash. The residents could not afford a comparable cost. Some houses have changed hands and are still occupied; others were occupied by squatters and others were vandalised. The financial loss was divided between building societies, insurance companies whose cover extended to subsidence and the owners who paid cash.

In March 1970, Dr. J.A. Phillips and I.J. Standing carried out an equipotential survey which indicated further cavities to the north-east of the site. These have yet to be entered. Several surface collapses could not be reached from underground. Occasionally items appear in the Press about the Close and obviously the story still has several chapters to run.

H. Pearman

ICE HOUSES OF GREAT BRITAIN

Historically purpose-built outdoor cold stores or ice houses were late-comers to our country. The Chinese harvested and stored ice earlier than the first millenia B.C. and it was well-known to the Greeks and Romans who packed snow into mountain hollows and constructed their own ice-pits. In Seneca's time (c.4 B.C.-A.D.65) ice had become an important article of merchandise at Rome, being sold in shops appropriated to the purpose, and even hawked about the street. (Quaest.Nat.,iv.13).

King Charles II is credited with introducing the idea into England which had long been in use on the Continent. His gardener, Rose, had visited the gardens at Versailles and studied the ice-houses and hot-houses there. On his return he was soon directing the building of both in the Royal gardens at Windsor and elsewhere. Ruge's Duirnal states: 'ice-houses were built in Upper St.James's Park, London in October 1660, as the mode is in France, Italy and other hot countries for to cool wines and other drinks for the summer season.' (Old plans show that these ice-houses were situated in what is now called Green Park and remained until the mid 19th century.)

In 1665 His Majesty's ice pit was at Greenwich, on the side of the Castle Hill. It was 'steened' with brick and was not quite so wide at the mouth as those in St.James's Park.

Boyle, writing in 1665 and quoting Evelyn the diarist, states: 'that to condense snow, they laid clean straw on the grate at the bottom of an ice pit, and then beat the snow to a hard cake one foot thick. They then laid straw and snow alternately, till the pit was full. Finally, straw or reed was put all over, and the doors kept shut, and some preserved a circle of trees about the pit.'

Their obvious success was soon assured and brought about a celebration in April 1667 at which were served 'cherries, strawberries and ice-cream', being unheard of novelties to appear on English table in spring.(1)(2)

'In the accounts of the Lord Steward's Dept. for 1686 is an entry for a dozen dishes of ice-cream, costing £1 each as part of the fare purchased for James II and his officers at camp on Hounslow Heath'. This information was given by the Public Record Office in a letter to The Times in September 1956. This was certainly a luxury item as evidenced by its expensive price!

These outdoor ice-houses became popular with rich families and during the next 200 years the fashion descended the social scale until probably every landed gentleman aspired to an ice-house. Disused ones can still sometimes be seen in the grounds of country mansions.

The proper function of an ice-house depended on its efficient insulation. The builders main object was to erect the ice-house in such a manner that the melting of the ice would as far as possible be avoided by excluding the influence of changes in the temperature and humidity of the external atmosphere, and that purpose was secured by following certain basic principles of construction. There were limits to the choice of site for there must always be an allowance for drainage from below, as dryness of the interior was necessary. Some were built above ground but under a natural or unnatural mound, however, the insulation of chambers built into a bank or hillside was almost perfect when over two-thirds of the ice-pit was subterranean, the dome protected by soil, and

situated above a lake, moat or stream into which the drain could lead and from where in the wintertime the ice could be collected, hauled up by horses, then wheeled in barrows and shot into the pit previously lined with straw and subsequently pounded. In hard winters it was possible to cut the ice into sizeable blocks with ice saws.(3).

Ice-houses were built in a variety of forms: dome or globe-shaped, sometimes called cup and domed; circular chambers; rectangular chambers; and more rarely tunnel and bell-shaped. Possibly the most convenient shape adopted was the egg or pear shape with the narrow end pointing downward so that when filled with ice any contraction would ensure that it compacted into the reduced area below still ensuring maximum insulation. The whole was commonly built of brick with cavity walls, and with great skill and symmetry. Stone masonry instead of brick is found in a minority and the interior walls of some were rendered with a hard lime or cement finish. Even today moisture is not to be seen inside. (4).

The entrance was most frequently on the north side so that the sun did not shine on the entrance itself, or on the door, and when the latter opened, warm air was not admitted to the ice pit. Invariably, the entrance led into a dark passage or passages before it reached the surface of the ice. A bend in the passage helped to deflect the air before it reached the inner end of the passage. Sometimes the chamber itself was placed at an angle to the entrance for the same reason. The ice was often further protected by the presence of closely fitting doors at either end of the passage, and with sometimes one or two between. At all events, one door at least could always be left shut. In some cases straw was packed between the doors and was painstakingly removed and replaced each time ice was required.(5).

In size few ice-houses exceeded 30ft.x20ft. and most were smaller. Usually the lower section was built beneath ground level to ensure a degree of coolness to begin with, and the upper domed part formed a roof, which together with the passage required extra protection (or so it was thought) from sun and wind, both were normally covered with stone flags, soiled over and planted with ivy and shrubs, occasionally stoutly thatched. Later ice-houses were built above ground for it was realised that the rays of the sun do more good than harm if the building is well-constructed because they tend to dry the air in and around the structure, and that the exclusion of damp can be better ensured above ground than below.(7) An old form of ice-house was a well, several feet deep, dug out of sloping ground or against a bank. The bottom of the well was made to slope towards a sunken drain, which was covered by an iron grating to permit the water from ice to drain quickly away. This drain was ingeniously 'trapped' with an air-lock to exclude the warmer air outside.(8)

I would mention here three ice-houses with unusual features.

In Quennell's A History of Everyday Things in England (p.179) there is an illustration of an ice house at Ashridge in Hertfordshire which was like a large well covered by a brick vault, cut off by a vaulted passage. 'There was an ingenious arrangement, by which, with sloping doorways, a pulley wheel was fixed in the brick wall of the passage, so that it could be used by means of a rope, to lower ice into or raise up from the ice-pit.'(9)

There is a very large globe-shaped ice chamber at Dalkeith Palace in Scotland with four passages leading into it. This colossal globe-shaped

cavity is built of stone, with a domed ceiling. A circular opening at the apex of the dome opens out to the ground above the pit. The ice was thrown in through this shaft. The depth from ground level to the bottom of the pit is 33'6" but the depth from the threshold of the entering passage to the bottom must have been 13-20ft. There is also a semi-circular passage which extends less than half the circumference of the pit which must be approx. 50ft. (10)

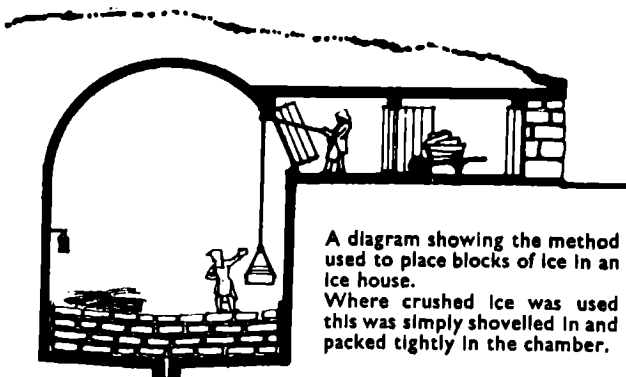
Again in Scotland, at Drum House there is a tunnel chamber. The builders made use of a quarry fissure in the rocks and roofed the rock chamber by means of a stone arch. The ice chamber is a large subterranean tunnel open at both ends. The upper surface of the arch is covered with soil and resembles a 'long barrow'. The North and South walls are mainly formed in the sandstone with a stratum of black shale at the bottom. Hewn sandstone, being 2' thick, forms an arch over the upper parts of the walls. The tunnel is approximately 12' wide, 30' long & 24' high (11).

To conclude, the majority of owners of old baronial houses in Britain possessed an ice-house for domestic use. They were usually erected in the grounds and for convenience, near to the dwelling house itself, but there are few references to ice houses in old manorial documents or in books descriptive of manorial life. It is considered that an ice-house measuring 13'6" deep and 5' in diameter at the bottom and 13' in diameter at the springing would hold a 100 loads of ice, which was enough to supply a mansion for a year. (12) They were still in use until the middle of the 19th century when artificial methods of manufacturing ice became known, rendering most ice-houses superfluous.

Bibliography and References

(1)(3)(4)(5)(6) R C Cash	<u>Lymm & Dist. Local Hist. Soc. Newsletter No. 81</u> Article, " <u>The Old Ice Houses of Cheshire.</u> " P1-4, January 1975.
(2)(3)(4)(5)(8)(10)(11)(12) A Niven Robertson	<u>Book of the Old Edinburgh Club Vol. XXVII</u> Article, " <u>Ice Houses of the 18th & 19th</u> <u>centuries in Edinburgh & The Lothians</u> PP 112-151 Printed by T.&A. Constable Edinburgh 1953 for members of the club.
(7) The National Encyclopaedia	Vol. VIII, p.644 Published by William McKenzie, London; Edinburgh & Glasgow (undated - Victoria Regina) 1024p.
(9) Marjorie and C.H.B. Quennell	<u>A History of Everyday Things in England,</u> <u>1733-1851</u> , published by B.T. Batsford, p.181 (Illustration of Ashridge Ice House, p.179) London 1933, 226p.

This article is based upon a paper read by the author at VIII^e Symposium de la Société Française d'Étude des Souterrains (Bergerac 1975) and has also been published in the Rickmansworth Historian No. 32 Autumn 1976.



A diagram showing the method used to place blocks of ice in an ice house. Where crushed ice was used this was simply shovelled in and packed tightly in the chamber.

Ice House at Ashridge, Herts.

Drawing of an ice house taken from Quennell's A History of Everyday Things in England

Sylvia P. Beamon

AN ICE HOUSE IN LANCASHIRE

ORMEROD ESTATE ICE HOUSE

The earliest reference to the Ormerod family is in the historical records which refer to one Matthew de Hormerodes, who came over from Normandy in the early 14th century. Since then the name has changed form and in the 16th century we know that the estate was being farmed by the Ormeroyd family. The main house and buildings were built for Laurence and Elizabeth Ormeroyd in 1595. At some time in the ensuing years the name changed to Ormerod and has been retained to the present day. In 1946 subsidence caused by the mining of a coal seam, running immediately below the foundations, effected partial collapse of the main house, damaging it so badly that it had to be demolished. The stable block and other outbuildings remained and have since been restored and converted into living accommodation for the Coates family who have owned the estate since 1938.

The group of buildings are set on the lower slopes of the hills about 500m from the main road and 10m from the river Brun in the valley below. The hill slopes have a N.E. aspect and are thickly wooded in the N.W. area of the estate with the river running across in a N.W. direction.

The situation of the Ice-House is very close to where the main house stood originally. Access is obtained by descending stone steps down the steep bank which continues with more steps on down to the river. The entrance passage and main chamber were dug out of the sloping hillside and the N.E. facing doorway was incorporated into the rampart wall which runs along parallel to the river. Iron hinges still remain on the outer door post and suggest that the existing wooden door now there may have replaced an earlier iron one. The passageway is elbow shaped and at present in a dangerous state of collapse. At the inner end of the passage is another doorway with the original iron door still in place. This leads into the main chamber which is egg-shaped with a flat circular floor and a domed roof containing what appears to be a square ventilation grid (50cm) set off centre from the vertical axis. The chamber itself is approximately 5-6m high and 3m diameter at its widest girth and is quite small in comparison with others which have been investigated. The material used in the construction was York stone, each stone being carefully cut and dressed, varying in size from large at the maximum girth to small at the dome and the floor. Thick heavy stone lintels were used in the doorways. In the upper part of the chamber and along the walls of the passage were large iron hooks set in the stones. The main chamber was in an extremely good state of preservation although a few stalactites were visible evidence of damp. Inadequate ventilation in conjunction with the structural dangers of the passage limited the amount of photography and survey which could be undertaken.

There is no evidence in the historical records of additions or alterations to the buildings since they were first constructed in 1595. This combined with the fact that the Ice-House is integrated in the structure of the rampart wall suggests that it was all part of the main building works. If the Ice House was constructed contemporary with the main house, then this is indeed an early date for an Ice House in England.

Eileen Aldworth

WITLEY PARK TUNNELS, NR. GODALMING, SURREY

In about the year 1900 a Mr. Whitaker Wright purchased a large tract of land to the west of the village of Witley near Godalming, Surrey. He enclosed the land with 5 miles of tall stone walls with mock-fortified lodge gates and built an immense house in the centre. The grounds were then carefully landscaped, the important feature being three large lakes.

In the main lake are many unusual features, e.g. a fountain in the middle, two ornamental weirs, a tower connected to the shore by a long footbridge and an underwater tunnel.

Four years later they solved the mystery of where all the money came from to pay for Mr. Wright's extravaganza when he was sentenced to seven years for fraud; soon afterwards he committed suicide.

After the war the house, unmanageably large, was pulled down, but the wall, lodges, enormous stables, and tunnel still remain. Access is difficult to obtain but occasional visitors are allowed by courtesy of the land agents.

Description

Following the edge of the lakesouth from the weir one comes to a flight of spiral stairs descending into the ground. This brings one down to a lens-shaped tunnel with a level floor leading out directly into the lake. The tunnel has not been excavated below the bed of the lake but stands upon it, a hollow shell. Presumably it was built before the lake was filled. No light is required because an eery green light pervades the tunnel. This comes from a glass-domed chamber 90 ft. along the tunnel, lit by daylight filtered through the water. The bed of the lake can be seen as a thick ooze covering the glass to a height of 4 ft. Above is clear water with large fish visible. There is a large statue of Neptune surmounting this chamber which sticks up above the surface. 25 ft. beyond the chamber the passage ascends by three steps to a square containing a pump. This is used to pump out any surface water entering the tunnel which is provided with drainage. A second flight of steps breaks through the roof of this chamber which is a concrete island in the lake.

The second tunnel also starts on the lake shore but heads inland and ends at a circular building with a hollow core. No other details of this tunnel are known. The map drawn (overleaf) is based on a large scale map of the area.

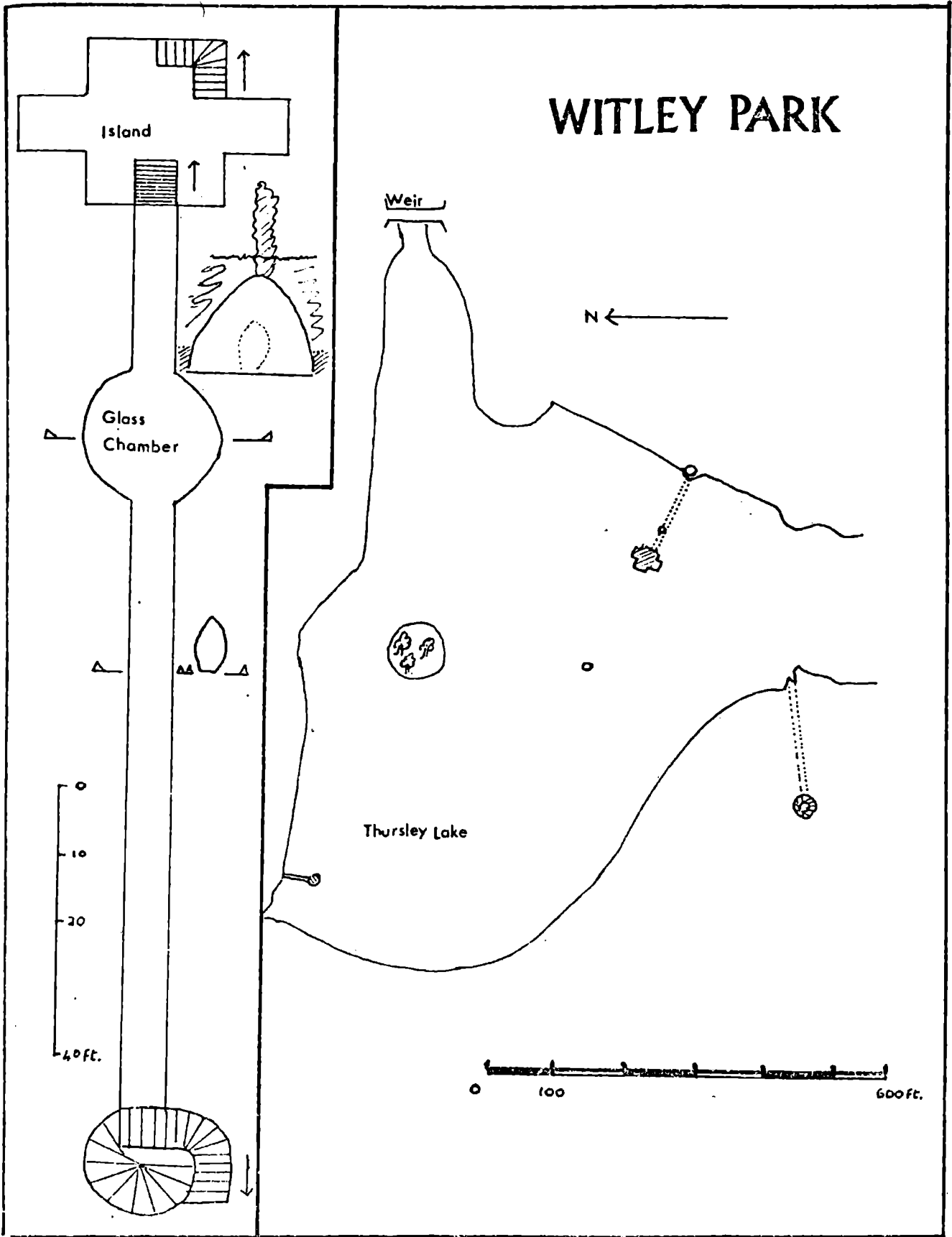
Reference. 'The Autocar Road Book' Vol.I 1910

H. Pearman

STOP PRESS: Two international gatherings are being organised by the S.F.E.S.

1. Mid July at VEZELEY, Burgundy, France when the General Assembly will meet. Papers to be included together with an exhibition.
2. 2-3-4 September - Journey of Study in co-operation with our Catalonian colleagues at VILLA NUEVA Y GELIRU, 25 miles from Barcelona.

Anyone requiring further information, please contact Mrs. S. P. Beamon.



REPORT ON JOURNÉES D'ÉTUDES HELD BY THE SOCIÉTÉ FRANÇAISE D'ÉTUDE
DES SOUTERRAINS AT CHINON (INDRE-ET-LOIRE) 12TH-15TH JULY 1976

This year two members of the Subterranea Britannica, Mrs. S. Beamon and Mrs. E. Aldworth, attended the meeting of the SFES in France. Members assembled in Chinon on the evening of July 12th and the study tour commenced on the morning of July 13th with a coach journey down the Loire Valley through Saumur to visit the sites at Dénezé-sous-Doué 47 km. west of Chinon. The first site at Dénezé was a souterrain with access down a steep slope near a ruined chapel. Down below in the main cave were the remains of a pressoire and fouloir with a large chimney and stout wooden beams, the equipment used for winemaking. Other side caves were used as wine stores. A few kilometres further along we visited the trogloditic houses and caves of Rochemenier. It is thought that the caves were initially used as a refuge as early as the 9th century A.D. and then in later medieval times they became living places. Many agricultural, domestic implements and houses have been preserved or restored as a museum and we were able to observe the harmonious living and working of the trogloditic village. The people of the village kept animals there too, including pigeons, giving the impression that they organised a totally self-subsistent community. After the traditional glass of wine and address by the Mayor, we made a brief visit to the 13th century church of St. Emerance, famous for its wooden statues.

After lunch at Louerre, the party divided into small groups and we were taken to the recently excavated site of Mousseau Dénezé. Monsieur Heron gave a detailed exposition of the sculptures of 'mysteries and frescoes' believed to have been carved in the 14th to 16th centuries. The figures were carved 'in situ' out of a white chalk-like material, locally named tuffee. Many of the carvings were of heads, some were pairs of figures holding hands, some monsters with human hands and feet but all showed extreme detail and care in the execution of the carving. Behind the area which enclosed the carvings was another cave and excavations are to be continued. M. Heron gave a short account accompanied by slides at the local village hall.*

Later in the afternoon we made our return journey, visiting the site at La Bouchardiere near St. Cyr-en-Bourg. This was an ancient ruined chateau dating back to the 14th century, underneath which have been discovered many galleries which are classified in four stages of occupation and use. M. Dufoix gave explanations on the guided tour, after which there were short speeches and a ceremonial 'knighting' of the SFES past President, Prof. Raymond Mauny, with a blue 'casque' (safety helmet). This was followed by the now very welcome local refreshment before the party returned to Chinon.

We then made a brief visit to the Chapel of St. Radegund overlooking Chinon, where restoration work is in progress, returning to the old part of the town for a visit led by Prof. Mauny to the Caves-Peintes and Caves Vaslins de Chinon. These were 1200m of galleries and caves underneath the Chateau de Chinon covering an extensive area of the foundations at various levels. We saw many stalactites and stalagmites (the latter called 'oeufs-sur-la-plat' because they had the appearance

of fried eggs). Many of the outer caves near the entrance were used as wine stores, by notable citizens of the town.

The next day commenced with a visit to La Roche Clermault, a 17th century chateau with souterrains beneath it. In volume the souterrains are much greater than the size of the chateau itself. It is thought that the souterrains were some kind of refuge and in one of the inner chambers the walls were covered with interesting engravings. One was a figure superimposed over an animal figure interpreted as a leopard. A date carved near the figure of 1589, the letters A.M.(Ave Maria) and a double cross may be some indication that the caves were used as a refuge during the religious wars. Another leopard was engraved on the opposite wall and in the floor of the cave excavations had revealed two depressions thought to have been used for slaughtering sheep and allowing the blood to run from one to the other, possibly in religious sacrificial initiation ceremonies.*

For the latter part of the morning we returned to Chinon where the Annual General Meeting took place and Mr. Saumande was re-elected President for the forthcoming year. After the main business was concluded M.Avrilleau gave an interesting description of the souterrains at Perigeux illustrated with colour slides.

After lunch we left by car for Romorantin, stopping briefly on the way to visit a souterrain at Chateau Robin. From Romorantin we continued to Mennetou arriving in time for dinner.

Thursday commenced with a short journey to Châtres-sur-Cher where we visited the Barbarant souterrains. L'Abbe P. Mollent gave an interesting account and then small groups were taken down below, for a guided tour. The souterrains extended over an area of about 200m² with access by a new entrance going down about 3m. and steps into other tunnels leading down to the deepest chamber which was about 10m. below the surface. The souterrains were hollowed out of the chalk and clay at different periods with circular galleries and may be compared with others at Bourbonnais, Limousin, German souterrains and some in Catalonia (Spain).

The furthest chamber accessible only by a series of very narrow bottle necks and a secret passage, was the chapel with triple altars in the form of a cross and dated to 1870. The niches in the walls had contained many limestone figurines and statuettes ranging from 5.25cm. in size, some with their head deliberately removed or cut (tête coup) and are thought to be an indication of sorcery and witchcraft. Other finds included pottery fragments and bones.

M. Deret, a local writer, told many stories of the folklore surrounding the souterrains and suggested that they may contain the tomb of a Barbarant chief dating as far back as 6th to 7th century A.D. but so far this has not been discovered. The souterrains were certainly still in use up to the early 1900's, possibly as a sanctuary for witches and then as a place for male initiation ceremonies. For many of us this souterrain was certainly one of the most interesting and there are still many unanswered questions concerning the folklore, witchcraft and magic.

* R. Mauny - 'Les Sculptures de la Roche Clermault et de Dénezé-sous-Doué. Archeologia, Document No.2, Paris 1973

After lunch in Châtres, we made a short visit to the nearby 'Pierre perceau', a large stone constructed out of flint modules about 2.5m. high with a hole about shoulder level, just large enough to put an arm through. This stone was said to be used for initiation ceremonies for girls and for fertility rites.

The final visit was to the 15th century Chateau de Moulin along the road to Blois, where we spent an enjoyable afternoon.

There is no doubt that this area of France has many interesting and exciting souterrains and we are very grateful to the members of SFES for their generous hospitality and kindness in affording us the opportunity to join them in their 1976 Journée d'Études. We look forward to next year's Conference which is being organised by Dr.M. Brøens in Barcelona, Spain and hope that more members of Subterranea Britannica will be able to participate.

Eileen Aldworth
December 1976

REVIEW

CES SOUTERRAINS: REFUGES POUR LES VIVANT, OU POUR LES ESPRITS?

M. Brøens. A. & J. Picard, Paris 1976. 153 p. Figs.20, plates 8, 60F.

This book, rather strangely subtitled "shelters for the living or for the spirits?" is a serious attempt to deal with the problems of classifying underground structures used for religious purposes. The approach is that of the religious historian rather than the archaeologist, so that there is considerable discussion of the motives of those making underground chambers (l'opus fossum/fossile). He sees these chambers as alternatives to above-ground tombs and shrines and in wide-ranging, but superficial, comparisons shows that they have existed from prehistoric to recent times in Europe and elsewhere. Attempts to link them with sentiments surviving from a 'caveman' phase in the human past would not be acceptable to present-day archaeologists. Next some of the rock-cut tombs and above-ground chambered tombs of late European prehistory, which are seen as ancestral to later underground cemeteries and shrines, are discussed. In considering the archaeological evidence the author is in difficulty, for the re-use of structures means that their date and original use are often in doubt. A classification is offered of the very complicated 'catacombs'-type structures in which many chambers are linked together.

The chapter on the use of these chambers in Christian times is the heart of the book. Here the writing is authoritative and the reference precise, especially on the French evidence.

In his summary the author outlines the thesis of a continually developing tradition of underground religious structures from Early Prehistoric into late Christian times. Whilst this may well be true it would seem dangerous to argue from it to any continuity in religious ideas.

J. A. Alexander

